DATA SHEET

MAQUET
GETINGE GROUP

# VENTILATION
# SERVO-i® INFANT

CRITICAL CARE

## HIGHLIGHTS

- For neonatal to pediatric patients
- Intuitive user interface
- Designed for cost-efficiency
- Flexible placement
- Modular - interchangeable plug-in units
- Enables Heliox delivery
- NAVA® - improved synchrony and unique monitoring capabilities
- For invasive as well as non invasive ventilation
- Y-sensor measuring - optional to internal measurement
- Available in MR and Transport editions for continuity of ventilatory care

# SERVO-i VENTILATOR FAMILY
# SERVO-i INFANT

### SERVO-i Configurations

The SERVO-i Ventilator family consists of four configurations.

Infant
Adult
UBE Universal Basic Edition
UEE Universal Extended Edition

Standard Configuration
Options
Not applicable

The SERVO-i Ventilator family addresses the very different requirements of neonatal, pediatric and adult needs from a single ventilation platform. All four configurations are the same ventilator, equipped with different functions. They can be customized and upgraded with different options for future needs. (SERVO-i Adult and SERVO-i Infant can also be upgraded to SERVO-i Universal.) The same ventilator can be used at the bedside, during transport* and in the MR-room* facilitating training, operation and maintenance, increasing efficiency and flexibility.

*An agreement with MAQUET must be signed, see conditions in the SERVO-i MR declaration (Order no. 66 71 670) and the Interhospital Transport Declaration (Order no. 66 64 721) respectively.

| | | | UBE | UEE |
|---|---|---|---|---|
| NIV NAVA® | ■ | ■ | ■ | ■ |
| NAVA® | ■ | ■ | ■ | ■ |
| Heliox | ■ | ■ | ■ | ■ |
| Nasal CPAP | ■ | X | ■ | ■ |
| NIV PC | ■ | ■ | ■ | ■ |
| NIV PS | ■ | ■ | ■ | ■ |
| Bi-Vent | ■ | ■ | ■ | ■ |
| Y Sensor Measuring | ■ | ■ | ■ | ■ |
| $CO_2$ Analyzer | ■ | ■ | ■ | ■ |
| Nebulizer | ■ | ■ | ■ | ■ |
| Alarm output connector | ■ | ■ | ■ | ■ |
| Open Lung Tool® | ■ | ■ | ■ | ■ |
| Automode® | ■ | ■ | ■ | ■ |
| SIMV (PRVC) + PS | ■ | ■ | ■ | ■ |
| PRVC | ■ | ■ | ■ | ■ |
| VS | ■ | ■ | ■ | ■ |
| SIMV (VC) + PS | ■ | ■ | ■ | ■ |
| VC | ■ | ■ | ■ | ■ |
| SIMV (PC) + PS | ■ | ■ | ■ | ■ |
| PC | ■ | ■ | ■ | ■ |
| PS/CPAP | ■ | ■ | ■ | ■ |
| All patient category software | ■ | ■ | ■ | ■ |

### KEY TO ABBREVIATIONS

| | |
|---|---|
| NAVA | Neurally Adjusted Ventilatory Assist |
| NIV | Non-invasive ventilation |
| SIMV | Synchronized Intermittent Mandatory Ventilation |
| PRVC | Pressure Regulated Volume Control |
| VS | Volume Support |
| VC | Volume Control |
| PS | Pressure Support |
| PC | Pressure Control |
| CPAP | Continuous Positive Airway Pressure |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| The system – General | |
|---|---|
| CE 0413 | The device complies with requirements of Medical Device Directive 93/42/EEC. |
| Classification: | Class I equipment. According to IEC/EN 60 601-1. |
| Standards: | IEC/EN 60 601-1 (Type B).<br>IEC/EN 60 601-2-12.<br>EN 794-1. |
| IP classification: | IP 20 |
| Electromagnetic compatibility (EMC): | |
| ■ Emission: | According to IEC/EN 60601-1-2 (Edition 2:2001). |
| ■ Immunity- Extended test to 30 v/m: | According to IEC/EN 60601-1-2. |

The '*EMC Declaration, Information to the Responsible Organization*' is available from MAQUET.

| Patient range: | Weight: |
|---|---|
| ■ Infant, invasive ventilation: | 0.5 – 30 kg |
| ■ Infant, NAVA + NIV NAVA: | 0.5 – 30 kg |
| ■ Infant, NIV PS+PC: | 3 – 30 kg |
| ■ Infant, Nasal CPAP: | 0.5 – 10 kg |

| Operating conditions | |
|---|---|
| Operating temperature: | +10 to +40ºC |
| Relative humidity: | 15 to 95% non-condensing |
| Atmospheric pressure: | 660 to 1060 hPa |
| Lowest pressure in breathing system: | -400 cm$H_2O$ |

| Non-operating conditions | |
|---|---|
| Impact: | Peak acceleration: 15 g.<br>Pulse duration: 6 ms.<br>Number of impacts: 1000. |
| Storage temperature: | –25 to +60º C (–13 to 140º F) |
| Storage Relative Humidity: | < 95% |
| Storage Atmospheric Pressure: | 470 to 1060 hPa |

| Power supply | |
|---|---|
| Power supply, automatic range selection: | 100 – 120 V AC ±10%, 50 – 60 Hz, or 220 – 240 V AC ±10%, 50 – 60 Hz. |
| Plug-in battery module: | |
| ■ Battery backup: | Two battery modules are delivered with the ventilator. Up to six battery modules can be included. |
| ■ Battery capacity: | Rechargable, 12 V, 3.5 Ah each. |
| ■ Recharge time: | Approximately 3 h/battery. |
| ■ Battery backup time: | At least 3 h, when using six batteries. |
| External 12 V DC: | 12.0 V – 15.0 V DC, 10 A |
| Max power consumption: | At 100 – 120 V: 2 A, 190 VA, 140 W.<br>At 220 – 240 V: 1 A, 190 VA, 140 W. |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| The ventilator – General | |
|---|---|
| Dimensions: | (See dimensional drawings page -) |
| ■ User Interface: | W 355 x D 53 x H 295 mm |
| ■ Patient Unit: | W 300 x D 205 x H 415 mm |
| Weight: | Approximately 20 kg (Patient Unit 15 kg, User Interface 5 kg) |
| Method of triggering: | Flow and pressure |
| Max. operating pressure: | Approximately 115 $cmH_2O$ |
| Bias flow: | 0.5 l/min |

| Gas supply | |
|---|---|
| Inlet gas pressure Air/$O_2$: | 200 – 650 kPa / 2.0 – 6.5 bar / 29 – 94 PSI |
| Connection standards available: | AGA, DISS, NIST, or French standard. |
| Unavailable gas/loss of gas pressure: | The flow from an unavailable gas (air or $O_2$) is automatically compensated for so that the patient gets the preset volume and pressure. |

| Patient system gas connectors | |
|---|---|
| Conical fittings: | Male 22 mm / female 15 mm. In accordance with ISO 5356-1. |
| Gas exhaust port: | Male 30 mm cone |

| User interface | |
|---|---|
| Weight: | Approximately 5 kg |
| Attachment: | Can be attached to the mobile cart, a table, rail or pole (15 – 30 mm diameter). |

| Screen | |
|---|---|
| Type: | TFT-LCD module |
| Size: | 31 cm (12.1”) diagonal |
| Viewing area: | 246.0 x 184.5 mm |

| Inspiratory channel | |
|---|---|
| Pressure drop: | Max. 6 $cmH_2O$ at a flow of 1 l/s |
| Internal compressible factor: | Max. 0.1 ml/$cmH_2O$ |
| Gas delivery system: | Microprocessor controlled valve |
| Inspiratory flow range: | 0 to 0.55 l/s |

| Expiratory channel | |
|---|---|
| Pressure drop: | Max. 3 $cmH_2O$ at a flow of 1 l/s |
| Internal compressible factor: | Max. 0.1 ml/$cmH_2O$ |
| PEEP regulation: | Microprocessor controlled valve |
| Rise time, expiratory flow measurement: | <12 ms for 10 – 90 % response at flow of 0.05 – 3.2 l/s |
| Expiratory flow range: | 0 to 3.2 l/s |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Alarms | |
|---|---|
| Airway pressure (upper): | |
| ■ Invasive ventilation: | 16 – 90 $cmH_2O$ |
| ■ Non Invasive Ventilation: | 16 - 40 $cmH_2O$ |
| Expired minute volume (Upper alarm limit): | 0.01 – 30 l/min |
| Expired minute volume (Lower alarm limit): | 0.01 – 20 l/min |
| It is possible to permanently silence this alarm | Optional |
| No patient effort (Apnea) alarm | 5 - 45 s |
| Automatic return to support mode on patient triggering | |
| No consistent patient effort: | Yes, described in User's manual |
| Respiratory frequency: | 1 – 160 breaths/min |
| High end expiratory pressure: | 0 – 55 $cmH_2O$ |
| Low end expiratory pressure: | 0 – 47 $cmH_2O$. Note. Setting the alarm to 0 (zero) is equal to alarm off. |
| High continuous pressure: | Set PEEP level + 15 $cmH_2O$ exceeded for more than 15 seconds. |
| $O_2$ concentration: | Set value ±5 vol% or ≤18 vol% |
| Gas supply: | Below 200 kPa / 2.0 bar / 29 PSI and above 650 kPa / 6.5 bar / 94 PSI |

| Alarms | |
|---|---|
| Battery: | Limited battery capacity: 10 min. No battery capacity: less than 3 min. Low battery voltage. |
| End-tidal $CO_2$ (upper and lower limit): | 0.5 – 20%. 4 – 100 mm Hg. 0.5 – 14 kPa. |
| Leakage out of range in NIV: | Yes. Described in the User's manual. |
| Technical: | Yes. Described in the User's manual. |
| Autoset (alarm limits) specification: | Invasive ventilation, controlled modes only |
| ■ High airway pressure: | Mean peak pressure +10 $cmH_2O$ or at least 35 $cmH_2O$. |
| ■ Upper minute volume: | Expiratory minute volume + 50%. |
| ■ Lower minute volume: | Expiratory minute volume – 50%. |
| ■ Upper respiratory frequency: | Breathing frequency + 40%. |
| ■ Lower respiratory frequency: | Breathing frequency – 40%. |
| ■ High end expiratory pressure: | Mean end expiratory pressure + 5 $cmH_2O$. |
| ■ Low end expiratory pressure: | Mean end expiratory pressure – 3 $cmH_2O$. |
| ■ Upper end tidal carbon dioxide concentration ($etCO_2$): | End tidal carbon dioxide concentration + 25%. |
| ■ Lower end tidal carbon dioxide concentration ($etCO_2$): | End tidal carbon dioxide concentration – 25%. |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Ventilation Modes – Invasive ventilation | |
|---|---|
| Controlled ventilation: | |
| ■ PC | |
| ■ VC | Optional |
| ■ PRVC | Optional |
| Supported ventilation: | |
| ■ PS/CPAP | |
| ■ VS | Optional |
| Combined ventilation: | |
| ■ SIMV (VC) + PS | Comes with the corresponding controlled ventilation mode. (Optional) |
| ■ SIMV (PC) + PS | |
| ■ SIMV (PRVC) + PS | Comes with the corresponding controlled ventilation mode. (Optional) |
| ■ Bi-Vent | Pressure controlled ventilation on two independently adjustable levels, allowing unrestricted spontaneous breathing on both levels. (Optional) |
| ■ Automode | Control mode: VC <—> Support mode: VS<br>Control mode: PC <—> Support mode: PS<br>Control mode: PRVC <—> Support mode: VS<br>Optional |

| Ventilation modes – Non-invasive Ventilation (optional) |
|---|
| ■ NIV PC |
| ■ NIV PS |
| ■ Nasal CPAP |

| Ventilation modes - NAVA (Optional) | |
|---|---|
| ■ NAVA | Neurally Adjusted Ventilatory Assist via endotracheal tube or tracheostomy |
| ■ NIV NAVA | Neurally Adjusted Ventilatory Assist via non-invasive patient interfaces |

| Waveform and loop presentations | |
|---|---|
| Real time waveforms - up to 4 waveforms can be displayed simultaneously: | |
| ■ Pressure | |
| ■ Flow | |
| ■ Volume | |
| ■ $CO_2$ | Requires SERVO-i $CO_2$ Analyzer option |
| ■ Edi | Requires SERVO-i NAVA option |
| Loops: | |
| ■ Volume / Pressure* | *A reference loop and three overlaying loops can be displayed. |
| ■ Flow / Volume* | *Displayed simultaneously with Open Lung Tool graphical trends, if requested. |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Monitoring | Displayed value | Trended value* |
|---|---|---|
| Breathing frequency: | Yes | Yes |
| Spontaneous breaths per minute (RRsp): | No | Yes |
| Peak Airway Pressure: | Yes | Yes |
| Mean Airway Pressure: | Yes | Yes |
| Pause Airway Pressure: | Yes | Yes |
| End Expiratory Pressure: | Yes | Yes |
| CPAP Pressure: | Yes | Yes |
| Inspired Tidal Volume: | Yes | Yes |
| Expired Tidal Volume: | Yes | Yes |
| Inspired Minute Volume: | Yes | Yes |
| Expired Minute Volume: | Yes | Yes |
| Leakage fraction in NIV (%): | Yes | Yes |
| Ti/Ttot: | Yes | No |
| I:E ratio: | Yes | No |
| Total PEEP: | Yes | No |
| Edi peak: | Yes | Yes |
| Edi min: | Yes | Yes |
| O2 Concentration (measured): | Yes | Yes |
| $CO_2$ End tidal concentration ($etCO_2$): | Yes | Yes |
| $CO_2$ Minute elimination ($CO_2$): | Yes | Yes |
| Tidal $CO_2$ elimination ($VTCO_2$): | Yes | Yes |
| $MV_e$ sp / $MV_e$: | Yes | No |
| Spontaneous Exp. Minute Volume ($MV_e$ sp): | Yes | Yes |
| **Stored trend values for up to 24 hours* | | |

| Monitoring | Displayed value | Trended value* |
|---|---|---|
| End Expiratory Flow: | Yes | Yes |
| Static Compliance: | Yes | Yes |
| Dynamic Compliance: | Yes | Yes |
| Inspiratory Resistance | Yes | Yes |
| Expiratory Resistance | Yes | Yes |
| Elastance | Yes | Yes |
| Time Constant | Yes | No |
| P0.1: | Yes | Yes |
| Work of Breathing patient: | Yes | Yes |
| Work of Breathing ventilator | Yes | Yes |
| Shallow Breathing Index (SBI) | Yes | Yes |
| Supply pressure ($O_2$ and air): | Yes | No |
| Battery remaining time: | Yes | No |
| Barometric pressure: | Yes | No |

| Log function | |
|---|---|
| Event log: | Alarms.<br>Ventilator settings.<br>Apnea periods.<br>Immediate functions. |
| Service log: | Technical alarms.<br>Test results.<br>Preventive maintenance.<br>Service history.<br>Configuration log. |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Parameter settings: Parameter: | Setting range: |
|---|---|
| Inspiratory tidal volume (ml): | 2 – 350 |
| Inspiratory minute volume (l/min): | 0.3 – 20 |
| Apnea, time to alarm (s): | 5 – 45 |
| Automode Trigger timeout (s): | 3 – 15 |
| PC/PS above PEEP ($cmH_2O$): | 0 – (80 - PEEP) |
| PC/PS above PEEP in NIV ($cmH_2O$): | 0 – (32 - PEEP) |
| PEEP ($cmH_2O$): | 0 – 50 |
| PEEP in NIV ($cmH_2O$): | 2 – 20 |
| CPAP pressure ($cmH_2O$): | 2 – 20 |
| CMV frequency (breaths/min): | 4 – 150 |
| SIMV frequency (breaths/min): | 1 – 60 |
| Breath cycle time, SIMV (s): | 0.5 – 15 |
| $P_{High}$ ($cmH_2O$): | (PEEP + 1) – 50 |
| $T_{High}$ (s): | 0.2 – 10 |
| $T_{PEEP}$ (s): | 0.2 – 10 |
| PS above $P_{High}$ ($cmH_2O$): | 0 – (80 - $P_{High}$) |

| Parameter: | Setting range: |
|---|---|
| $O_2$ concentration (%) | 21 - 100 |
| I:E ratio: | 1:10 – 4:1 |
| $T_{Insp}$ (s): | 0.1 – 5 |
| NAVA level ($cmH_2O$/µV): | 0 – 30 |
| Edi trigger sensitivity (µV): | 0.1 – 2.0 |
| NIV Back-up $T_{Insp}$ (s): | 0.3 – 1 |
| $T_{Pause}$ (s): | 0 – 1.5 |
| $T_{Pause}$ (% of breath cycle time): | 0 – 30 |
| Flow trigger sensitivity level (fraction of bias flow): | 0 – 100% |
| Press. trigg sensitivity ($cmH_2O$): | -20 – 0 |
| Insp. rise time (% of breath cycle time): | 0 – 20 |
| Insp. rise time (s): | 0 – 0.2 |
| Insp. cycle off (% of peak flow): | 1 – 70 |
| Insp. cycle off in NIV (% of peak flow): | 10 – 70 |
| Nebulizer time (min): | 5 – 30 |

| Backup settings Parameter: | Setting range: |
|---|---|
| Inspiratory tidal volume (ml): | 2 - 350 |
| PC above PEEP ($cmH_2O$) | 5 – (80 -PEEP) |
| PC above PEEP in NIV | 5 – (32 - PEEP) |
| CMV frequency (breaths/min): | 4 – 150 |
| I:E ratio: | 1:10 – 4:1 |
| $T_{Insp}$ (s): | 0.1 – 5 |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Parameter: | Setting range |
|---|---|
| Oxygen breaths: | 100% for 1 minute |
| Start breath: | Initiation of 1 breath (In SIMV mode initiation of 1 mandatory breath) |
| Pause hold: | Insp. or exp (0 – 30 seconds) |
| Alarm silence/reset: | 2 minute silence and reset of latched alarms |
| Compliance compensation: | On/Off |
| Automode (optional with Universal Basic Edition): | Automode On/Off |
| Servo Ultra Nebulizer (optional): | Nebulizer On/Off |
| Backup ventilation | Backup On/Off |

| Suction Support | |
|---|---|
| Pre oxygenation time: | Max. 2 min |
| Post oxygenation time: | Max. 1 min |
| Suction phase time: | No maximum level |
| Adjustable oxygen level: | 21 – 100 % |

| Saving of data | |
|---|---|
| Recording of current waveform and parameter values: | 20 seconds of data will be recorded (10 seconds before and 10 seconds after activation). |

| Communication/Interface | |
|---|---|
| Serial port: | RS-232C - isolated. For data communication via the Communication Interface Emulator (CIE). |
| Network connection (optional): | MIB (Medical Information Bus) monitor connection |
| Data transfer (optional) | Via Ventilation Record Card |
| Screen picture transfer (optional) | Via Ventilation Record Card |

| Non-invasive Ventilation (optional) | |
|---|---|
| Max. leakage compensation level: | |
| ■ NIV: | 25 l/min |
| ■ Nasal CPAP: | 15 l/min |
| Leakage overrange detection: | Automatic |
| Disconnect detection: | Automatic |
| Disconnect flow: | Configurable |
| ■ Low | 7.5 l/min |
| ■ High | 15 l/min |
| ■ Disabled | Deactivates disconnect detection |
| Connect detection: | Manual, or automatic via bias flow |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Open Lung Tool (OLT) (optional with Universal Basic Edition) | |
|---|---|
| Three simultaneous graphical trends, presented breath-by-breath: | 1. EIP and PEEP (End Inspiratory Pressure and Positive End Expiratory pressure).<br>2. $VT_i$ and $VT_e$ (Inspiratory and Expiratory Tidal volume).<br>3. C dyn i and $VTCO_2$*<br>(Dynamic inspiratory Compliance [= VTi/(EIP – PEEP)] and Tidal $CO_2$ elimination*).<br>* Requires SERVO-i $CO_2$ Analyzer option. |
| Values stored breath by breath: | Up to 21.600 breaths. |
| Cursor function: | A cursor can be moved with the main rotary dial or via the touch screen. When moving it along the graph, the numeric parameter values valid for that actual moment will be shown. |
| Zoom function: | Time resolution of the x-axis can be selected in five different steps. |
| Time marking: | Hours and minutes (when values are measured). |

| NAVA (optional) | |
|---|---|
| Standards: | IEC/EN 60601-1<br>(Type CF, defibrillator proof) |
| Size:<br>■ Edi module:<br>■ Edi catheter cable: | <br>154 x 90 x 21 mm<br>Length: 2 m |
| Weight - Edi module: | 0.25 kg |
| Power source - Edi module supply voltage: | Powered from SERVO-i. <3 W at 12 V (normal operation) |
| Parameters: | Edi waveform<br>Edi leads waveforms<br>NAVA estimated pressure waveform (Pest) |
| Edi catheters: | 6 Fr, length 49 cm<br>6 Fr, length 50 cm<br>8 Fr, length 100 cm<br>8 Fr, length 125 cm<br>12 Fr, length 125 cm<br>16 Fr, length 125 cm |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| SERVO-i $CO_2$ Analyzer (optional) | |
|---|---|
| Standard: | EN 864, ISO 9918.<br>IEC/EN 60601-1<br>(Type BF, defibrillator proof) |
| Size: | |
| ■ $CO_2$ Analyzer Module: | 154 x 90 x 43 mm |
| ■ Sensor: | 32.0 x 42.4 x 21.6 mm |
| Weight: | |
| ■ $CO_2$ Analyzer Module: | 0.45 kg |
| ■ Sensor: | 18 g |
| ■ Airway adapter: | 10 g |
| Connectors and cables: | |
| ■ $CO_2$ Analyzer Module: | 15-pole D-sub female connector. |
| ■ Sensor: | 20-pole, 2.4 m cable. |
| Power source: | |
| ■ $CO_2$ Analyzer Module supply voltage: | Powered from the SERVO-i. |
| ■ Power consumption: | ≤ 8 W at 12 V, during warm up.<br>≤ 6.5 W at 12 V, during normal operation. |
| ■ Sensor: | Powered from the $CO_2$ Analyzer Module. |

| SERVO-i $CO_2$ Analyzer – Performance | |
|---|---|
| Measuring method: | Mainstream, dual-wavelength, non-dispersive infrared. |
| Parameters: | Capnogram.<br>$CO_2$ End tidal concentration ($etCO_2$).<br>$CO_2$ Minute elimination ($\dot{V}CO_2$).<br>Tidal $CO_2$ elimination ($VTCO_2$). |
| Measuring range: | 0 to 100 mm Hg $CO_2$ partial pressure.<br>0 to 13.3 kPa $CO_2$ partial pressure.<br>0 to 13.2% $CO_2$ volume (at a barometric pressure of 1013 hPa). |
| Step response time: | <25 ms (10 to 90% step response). |
| Warm-up time: | 30 s to initial $CO_2$ indication, max. 5 min to full specification. |
| Oxygen concentration compensation: | Automatic. Values supplied from the SERVO-i Ventilator System. |
| Barometric pressure compensation: | Automatic. Values supplied from the SERVO-i Ventilator System. |
| Digitizing rate: | 87 Hz |
| Airway adapter dead space: | <0.5 ml |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| Y Sensor measuring (optional) | |
|---|---|
| Size: | |
| ■ Y Sensor Module: | 154 x 90 x 43 mm |
| ■ Y sensor infant: | Length 51 mm |
| Weight: | |
| ■ Y Sensor Module: | 0.4 kg |
| ■ Y sensor infant: | 7.5 g |
| Sensor material: | Makrolon polycarbonate. |
| Tubing: | 2.0 m. Medical grade PVC. |
| Power source – Y Sensor Module supply voltage: | Powered from the SERVO-i. <5 W at 12 V (normal operation). |

| Y sensor measuring – Performance | |
|---|---|
| Measuring method: | Fixed orifice, differential pressure. |
| Parameters: | Airway pressure.<br>Airway flow.<br>Inspiratory and expiratory volumes. |
| Measuring range: | 0.125 to 40 l/min |
| Airway adapter dead space: | < 0.45 ml |

| Servo Ultra Nebulizer (optional) | |
|---|---|
| Weight: | Approx. 125 g |
| Dimensions: | H 105 mm x L 108 mm x W 60 mm |
| Connection cable length: | 2.0 m |
| Nebulizer T-piece connections: | Inlet/outlet: 22/15 mm outer/inner diameter and 22 mm inner diameter, ISO standard. Pediatric patient tubes: Adapters 22/10 mm outer diameter and 15/10 mm outer diameter. |
| Internal volume: | 60 ml |
| Ultrasonic generator frequency: | 2.4 MHz |
| Particle size (water): | Mass Median Diameter (MMD) = approximately 4.0 µm, measured distally in endotracheal tube 8 mm inner diameter. |
| Output from nebulizer (water) – minimum water flux: | Min. 0.1 ml water/min at 0.1 l gas flow/s.<br>Min. 0.3 ml water/min at 0.5 l gas flow/s. |
| Buffer liquid: | Sterile water |
| Max. medication temperature: | 55° C (131° F) |
| Volume, medication cup: | Max. 10 ml |
| Noise level: | Max. 50 dBA, measured at 0.3 m distance. |

| Aeroneb Nebulizer Systems (optional) |
|---|
| See separate data sheets. |

# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

| SERVO-i Mobile Cart (optional) | |
|---|---|
| Weight: | 20 kg |
| Dimensions: | H 1015 mm x L 640 mm x W 560 mm (see dimensional drawing below) |

| SERVO-i Drawer kit (optional) | |
|---|---|
| Weight: | 4.5 kg |
| Dimensions: | H 240 mm x L 210 mm x W 300 mm |

| SERVO-i Holder (optional) | |
|---|---|
| Weight: | 3.5 kg |
| Dimensions: | H 352 mm x L 247 mm x W 159 mm (see dimensional drawing below) |

| SERVO-i Shelf Base (optional) | |
|---|---|
| Weight: | 1.2 kg |
| Dimensions: | H 29 mm x L 205 mm x W 159 mm (see dimensional drawing below) |

| Gas cylinder restrainer (optional) | |
|---|---|
| Max load: | 2 x 5-liter bottles |

| SERVO-i IV Pole (optional) | |
|---|---|
| Max load (total): | 6 kg |

| Gas trolley (optional) | |
|---|---|
| Max load: | 2x10 kg bottles |
| Docking: | Dockable to SERVO-i Mobile Cart.<br>Dockable to a separate wall clamp. |

| Compressor Mini (optional) |
|---|
| See separate data sheet. |

| Alarm output connector (optional) | |
|---|---|
| Connector: | 4-pole Modular connector |
| Ratings: | Max 40 V DC, Max 500 mA, Max 20 W |

| Service | |
|---|---|
| Regular maintenance: | Once every 12 months or at least after 5000 operating hours. |

| Note |
|---|
| For inaccuracies and more detailed technical specifications please refer to the User's manual. |

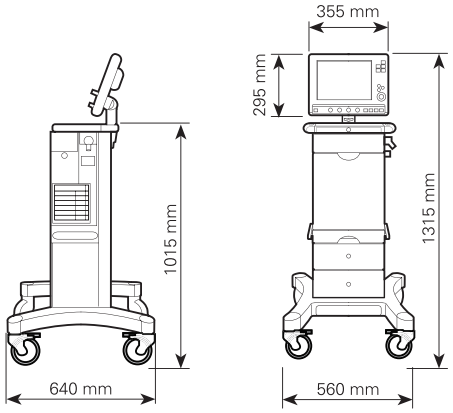
## ORDERING INFORMATION

SERVO-i, Ventilator and accessories: See separate information: "SERVO-i, Version 5.0 — System Flow Chart" (Order no: 66 70 102).

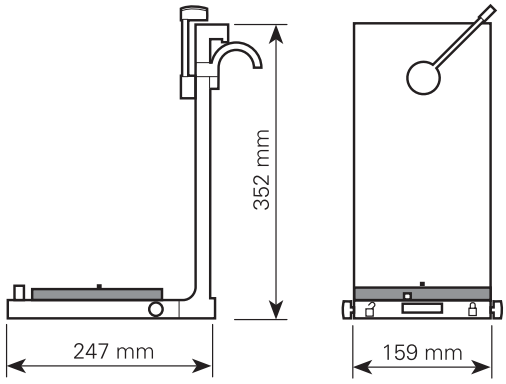
# TECHNICAL SPECIFICATIONS
# SERVO-i INFANT

## Dimensional drawings

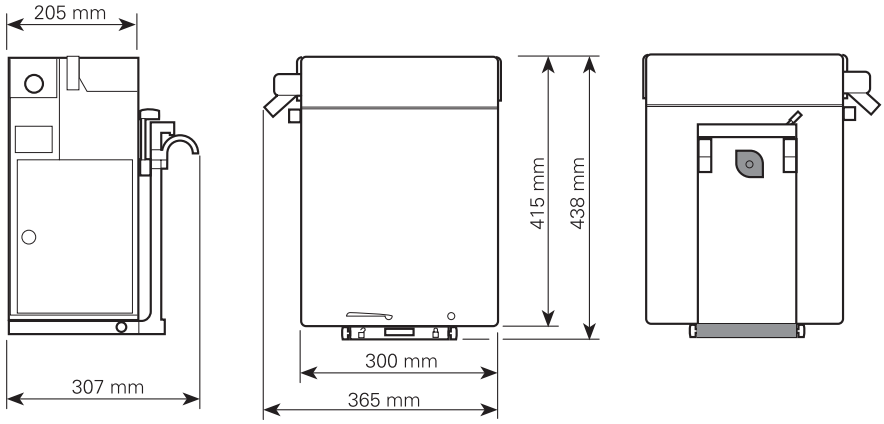
### SERVO-i on Mobile Cart



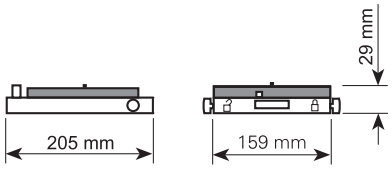

### SERVO-i Holder




### SERVO-i (patient unit) on SERVO-i Holder




### SERVO-i Shelf Base



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